George's PINK PAGES

April 2001

ARE YOU READY FOR THE NECTAR FLOW?

Have you got enough Supers?
Are you using drawn comb or foundation?
How old is your queen?
Are your colonies strong enough in forager age bees?
Are you going to be AHEAD of your bees, or behind of their actions?
Do you really know WHAT causes swarming, and how to reduce the chances?
Is April 1st too late to know all of the above, or when should I have started to prepare?

Your success in obtaining a strong honey crop is dependent on how you handled the questions listed above. If you are satisfied with 25-50 pounds of honey every year or so (even less in some years), then you are satisfied in driving a Nash Rambler, Chevrolet Corvair, or Ford Falcon; or maybe, you don't care about honey, but just want to watch the bees work. Unusual, but nothing wrong with that. There are some people that rent a room for a week in a hotel just 10 miles from their home to escape the drudgery of home ownership, and call that week a VACATION. Unusual, but nothing wrong with that.

However, most people have bees for the purpose of producing lots of honey so they can sell some, give some away to friends, eat some themselves, use for medicinal reasons like a sore throat, and all want honey as evidence to BRAG that they are a big, brave beekeeper who is not afraid of being stung. Then there is the hunter who has a mounted deer head on his wall, or the fisherman with a mounted sailfish that he could not eat for dinner. Don't you wonder about the total cost in equipment and time it costs to get that deer or that sailfish? Bees and equipment cost money too, but you can SELL honey and STILL BRAG about being stung.

Hoping that I have provided you with a chuckle, but more importantly, I hope that I make you THINK about the things that should done NEXT YEAR to be better than this year. Let's take them in order:

Have you got enough supers? In our central Maryland area, our total nectar flow is short, but intense - starting about April 15th and ending about May 31st, but no later than June 15th. Each colony should be able to produce 125 pounds of honey most years, if you have followed the management techniques of bee scientists and researchers and forgotten the ways that "Daddy kept bees". In this short 6 week period of nectar production, bees don't have the time to quickly ripen the nectar into honey, and hence need a good bit of extra super space just to store that nectar until they can ripen it into honey. Since honey is only about 16%-18% water, but nectar is 60%-80% water, it takes a lot of space to store all that thin, watery nectar. Hence, a strong colony of bees should have about 5 (yes, five) supers of drawn comb (not foundation) installed about April 1 -15th, but certainly no later than May 1st. If you were in a location that provided you with a long, drawn out nectar flow without much intensity, you could put on just 2-3 supers, remove 1-2 and extract, and reuse them again; but not in our short, but intense flow of central Maryland. If bees don't have enough storage space for the nectar, they don't just quit and sit on the front porch, they swarm to a new home and can build new storage space. You are left "Holding the Bag".

Are you using drawn comb or foundation? I have problems understanding how anyone can believe that these two things are the same or equal; but some people certainly don't realize the difference! Drawn comb can be used year after year PROVIDED YOU TAKE CARE OF IT when it is not in the hive. However, if you do not have any drawn comb, you must use foundation. Supers of foundation can only be installed ONE AT A TIME. You dare not try to draw just 9 frames of foundation instead of ten, or you will have a king sized mess that probably will have to be trashed. Put 10 frames of foundation, never mix it with drawn comb, in a super, install it directly on top of the brood nest (with no queen excluder), wait until the bees have drawn out 3-4 frames of foundation and added either nectar or SOME BROOD in them, make sure the queen is put back in the brood chamber, install a queen excluder, and put this now BAITED super of foundation back on top of the queen excluder. When the bees have drawn about 6-7 frames of foundation, move the Undrawn frames to the center and the drawn frames towards the outside, and add a second super of 10 frames of foundation. Now your super area is well BAITED with nectar, so you no longer remove the queen excluder to let the bees in. After you get 10 frames of drawn comb made in the super, you can then switch back to using only 9 frames if you like that. BEES WILL NOT DRAW FOUNDATION FOR ANY REASON WHATSOEVER UNLESS THERE IS A NECTAR FLOW ON OR A FEEDER OF 1:1 SUGAR SYRUP (artificial nectar). For some unknown reason, so many beekeepers just don't seem to understand this and still don't have any drawn comb in October to store honey for the coming winter. In central Maryland there is NO NECTAR FLOW in July and August, so you have to feed 1:1 sugar syrup then if you want foundation drawn into comb. If you understand bee biology, this fact is easy to explain: Bees have to consume (eat) about 8 pounds of honey (equal to maybe 30 pounds of nectar) to produce 1 pound of bees wax that they build into comb! Isn't that simple? Now, I hope you understand! Further, I don't want you to forget that you can NOT install two, three, or 4 supers of foundation all at the same time; but you HAVE TO INSTALL JUST ONE SUPER OF 10 FRAMES OF FOUNDATION, get it about 70% drawn and then add another super of 10 frames of foundation, and then a third super, followed by a fourth super, etc.

How old is your Queen? I don't want to argue with you, but during the past 15 years, the most eminent bee scientists and bee researchers in the country have found that the major thing that controls swarming or not swarming is the amount of queen pheromone that the queen can produce every day, and they have proved that a queen's ability to produce this queen pheromone DIMINISHES a little bit each day of life starting with the day she was bred. Hence, trying to put this in "gambling" terms: a queen starting her second spring season of laying eggs is more than twice liable to swarm than a queen starting her first spring laying season; and the chances of swarming by a queen starting her third spring laying season are "astronomical" compared to a young queen. Further, and this has been known for many years, some races of honey bees like Carniolans have a higher propensity to swarm than other races. Many famous migratory honey producers who carry bees all over the U. S. following different crop blooms requeen their colonies TWICE each year to prevent swarming; and essentially all professional honey producers requeen their colonies every 12 months! WHY? The more bees in a colony, the more honey it can produce, and everyone knows that a young 18 year old girl can get pregnant faster than a 35 year old woman; so a younger queen can lay more eggs than an older queen. Perhaps more important is losing a swarm in April or May in Maryland means losing most of your year's honey crop, and a real young queen is not likely to swarm.

The net result of all this writing is to say that your bees will reward you with much more honey and little or no swarming if your queen is never more than 12 months old. Suit yourself, but I strongly recommend requeening every year.

Speaking for myself, I don't like anything interfering with my short, early Maryland nectar flow in April and May, so I requeen in very late August and early September using "Imirie's Almost Foolproof Requeening Method" described in an old PINK PAGE, and in the Brushy Mountain Bee Farm Catalog several years ago.

Are your colonies strong enough in FORAGER AGE bees? Your children don't go out to work when they are 10, 12, or 15 years old, but I certainly hope they do some house duties like cutting grass, making their bed, or sweeping the floor when Mom is sick. Well, honey bees have HIVE DUTIES to do inside the hive until they are about 19 days old, when they "get their WINGS" and become forager bees, flying out looking for nectar and pollen. The life span of a bee in flying weather is only 42 days, and it spends the first 19 days doing hive work like building comb, feeding brood, cleaning the hive, feeding the queen, cleaning cells for the queen to lay in, guard duty at the front door, unloading nectar from foraging bees, ripening nectar into honey, and many other house duties. Hence, a bee only forages the last 23 days of its life - JUST 3 SHORT WEEKS! Now use your mathematical mind: If our nectar flow ends on May 31st, an egg layed by the queen anytime after April 21st is USELESS to the hive for nectar "collecting" to make honey. An egg layed on April 22nd emerges as a worker bee 21 days later which is May 12th, and it spends the next 19 days inside the hive doing house duties, and graduates to the status of a foraging bee on May 31st, the day the nectar flow ends! If the 2-3 week period of May 5th - May 25th is the height of your nectar flow the queen must lay eggs to produce foraging age bees for this period 40 days ahead, or about March 26th. Making it simple: The egg of a forager bee must be laid by the queen 40 days in advance of the date it goes out to forage. Hence in central Maryland, it is very important to get a queen laying well in February to produce the bees that can keep the brood area nice and warm so the queen can really start HEAVY LAYING in March in order to produce lots of forager age bees to gather all that pollen and nectar that is only available the last of April and all of May. When your colonies have lots of bees in June or July, you are losing lots of your honey crop, because all those bees are just eating the honey that was collected in May. It is a totally different subject, but worth mentioning right here. One great advantage of Carniolans is the queen drastically stops laying eggs when a pollen source slows, but the Italian queen just keeps on laying eggs producing more bees that eat up much of the crop collected in April and May. Any decent bee book will explain that to you, so you don't have the idea that I am praising my Carniolans at the expense of the Italian race, or Buckfast hybrid since the Buckfast is primarily Italian. This curtailment in brood production by the Carniolan is well described on Page 57 of the 1992 Revised Edition of The Hive and The Honey Bee, and the continued brood production by the Italian queen is described near the bottom of Page 58. I feel that you should be aware of the differences between bee races, and stop thinking that "all bees are the same", which is a total MULARKEY.

Are you going to be AHEAD of your bees, or behind in their actions? So many people, maybe even with good intentions, just don't seem to anticipate the needs of their bees in trying to help them in honey production or lack of swarming, and the result is a lousy honey crop or losing a swarm. I am aware that there are people who will be late for their own funeral, but I am talking to the rest of you. My PINK PAGES, bee books, magazine articles, Certified Master Beekeepers, and even some older beekeepers can describe to you when to do this and when not to do that, and YOU FOLLOW THOSE INSTRUCTIONS without putting off until tomorrow what should be done today. Bees do have a calendar hanging in their hive, nor do they know what day of the week it is, so it is your job to ANTICIPATE a need for supers before they are really needed and provide them before your colony swarms. I have made many people mad by pointing out that the

loss of a swarm during the nectar flow is 100% beekeeper's FAULT, and not weather, El Nino, drought, bad queen, or race of bees. The job of a beekeeper is to HELP his bees, and prevent them from following the ways of primitive nature, which was to swarm and rarely live through the winter. Reverse your colonies in early February to provide laying space for the queen, start feeding 1:1 sugar syrup in February to stimulate queen laying, put your supers in place BEFORE the nectar flow (not after it starts), extract your honey before the dirty feet of the bees turn the pretty white cappings yellow or brown, put your Menthol in place BEFORE September 1st so it kills the tracheal mites, etc, etc. PLAN AHEAD AND DO IT!

Do you really know what causes swarming, and how to control it? It is fairly safe to say that most beekeepers do not want any swarms, because that generally ruins the honey crop for the entire year; and hence, you would think that they would seek out the knowledge of experts like bee scientists, bee researchers, master beekeepers, or professional honey producers. Maybe they are just shy or embarrassed to ask any of these people, but they will listen to the advice of some old timer who loses swarms most years and has to buy new bees every year or so. This is foolish, so let me tell you what causes swarming. By the way, swarming just does not happen, but bees swarm because something is wrong in the makeup of the hive, and this can be corrected IN ADVANCE by a knowledgeable beekeeper. Bees swarm at two different portions of the spring. The first, we call SWARM SEASON, is that period where pollen is being collected and a little bit of nectar is around like in dandelions. The worker bees are forcing the queen to lay high numbers of eggs, 1500 - 2000 eggs every day, and the queen suddenly runs out of "desirable" laying space in the brood chamber, resulting in CONGESTION IN THE BROOD CHAMBER. By the time of the year of February, the bottom brood chamber is EMPTY and the queen is laying only in the top half of the brood chamber, and brood is now up against the inner cover. The worker bees are NOT going to push that queen down to the empty bottom brood box where there is no pollen, no nectar, no honey, and chilly near the front entrance where they can't keep the brood warm, so they either stop the queen from laying or swarm. You can quickly solve this problem by REVERSING THE BROOD BOXES, so the empty box is now on top and the queen can just move upward into it as the workers gather pollen for it and either a little nectar or sugar syrup to feed the new brood. You may have to REVERSE 2-3 times prior to April 15th; but by doing this, you have reduced congestion in the brood chamber by continually providing more laying space for the queen. CONGESTION IN THE BROOD CHAMBER has been proven the Number One cause of swarming during swarm season by bee research. The number two cause of swarming is the age of a queen! If your queen is over 12 months old, she just cannot produce enough Queen Pheromone to "glue" a large number of bees together as a singular functioning unit, so they swarm. You could have prevented this by having a new queen in place in the spring. By "new" I mean a queen that is less than 8 months old. Please note that I have never mentioned supers here. Supers and super space doesn't mean "doodily" when there is no or very little nectar flow. The bees are only living and functioning in the brood chamber area, which should be either 2 deep boxes or 3 medium (illinois) super boxes. By REVERSING, a beekeeper has HELPED his bees by building a large population without having a swarm! Sometime about mid April, the nectar flow gets going regularly, and the bees DROP all thoughts of swarming and start thinking about nectar collecting to provide lots of winter stores of honey for future bees (It is interesting that a bee collecting nectar in May has never experienced cold weather and will die in June; but collects the nectar, not for herself and NOT for you, but for future bees to live through next winter). Nectar is very thin and might be 80% water, whereas honey is only 16%-18% water. Storing all this thin, watery nectar until the bees can find time to ripen it into thick honey by evaporating most of the water can require a lot of

super space filled with empty drawn comb. If the supers are not there exactly when the bees need all this space, they SWARM! Whose fault? 100% Beekeeper's Fault! Supers sitting in his garage or basement did not stop the bees from swarming, and they are not going to wait for his weekend off from work. He did NOT HELP his bees, so they left! When I hear tales like this, although I sympathize with the beeHAVER, I laugh in his face when he tries to blame the swarm on the queen breeder, the weather, the government, or he had tickets to go to the ballgame and went to Mother's home for Mother's Day. He just did not PLAN AHEAD!

Is April 1st too late to know all of the above, or when should I have started to prepare?
This is my 69th year of beekeeping, and I am still learning responsible beekeeping and changing with the times as the bee scientists and researchers learn more and more about our wonderful apis mellifera . For beginners who are just getting their first bees now, pay attention to what I have written here, read only RECENTLY written books and articles which are not behind the times, and seek out Certified Master Beekeepers, bee scientists, or researchers for advice. Once you have bees, do what the famous Dr. Roger Morse wrote: start planning for next year in September, which he calls the Honey Bee's NEW YEAR. I do that by requeening all my hives in September, so I have almost no swarming in the spring.

I hope that I have helped some people, but for you more experienced people, continue on as I talk about making splits to either increase the number of colonies or as a STRONG management tool to prevent swarming in an emergency.

Splitting a Colony

Swarming, a beekeeper's nemesis because of the loss of honey crop, can usually be prevented by "splitting" a colony into two parts. Bee scientists have now well proven that the two major reasons for a swarm are, in order of importance: 1) BROOD CHAMBER congestion, having nothing to do with Super space, and 2) the age of the queen, because starting from the day of her mating, ever after she daily loses a little of her ability to produce the queen pheromone which is that "glue" that welds a large group of bees into a single functioning colony.

In most instances, the purpose of "splitting" a colony into two parts is to increase colony number rather than a technique to prevent swarming; but properly done at the correct time, splitting can be a case of "having your cake and eating it too". If you use "splitting" as a swarm retarding technique with no desire to increase your colony number, you can also replace the old queen in the original parent colony with the new queen in the split that you have made. Further, you have even gained an "extra gift", fresh nicely drawn comb from the foundation you placed in the split colony. Let me explain the best way to split a colony in the Central Maryland area, because other areas like North Carolina, New York, and even Western Maryland, Southern Maryland or Eastern Shore have different temperatures and different flora and hence require different dates to split.

Of paramount importance is the colony to be split must be a strong colony which has BROOD (eggs, larva, & capped pupa) occupying about 800 square inches of comb space on one side. (A deep frame has 140 sq. in. of comb on each side.) In addition to brood, the comb also has cells filled with pollen, nectar, and

honey. Mentally estimate how many sq. in. of all three types of brood there are among all the 20 frames of the brood chamber.
About mid April, you should have brood in various amounts on 6 to 10 frames primarily in the middle of the two hive bodies; and you should have maybe 20% less about April 1st.
By the way, you should know that there are 55.3 cells per square Inch counting BOTH sides of the comb; so when you measure 800 sq. inches on ONE SIDE of the comb, you are looking at about 27.6 cells x 800 = 22,000 future bees meaning your queen has been laying about 1000 eggs each day for the past 21 days. If the queen breeder can supply on time (and I use dependable breeders that try hard), I want a new MARKED (White for 2001) queen delivered to me between April 10 and April 20. About April 3, I put a queen excluder between the two brood chambers so I can find the queen more easily the following week.
When the queen arrives, I give her a drink of water, put her in a dark cool spot in my house, and gather up my equipment for the split which will require 10 frames of DRAWN COMB or foundation, a complete hive, a gallon jar of 1:1 sugar syrup, and an entrance reducer. Whether I make the split that day or the next day (forget waiting for the weekend) depends on the weather and time of day which should be above 50 degrees, no wind, and sunny.

I first locate the old queen (she will be in which ever hive body that has eggs and real young larva) and put the frame she is on in a empty separate hive body to isolate her so there is no question about her location. Now, I am free to do what I desire with any of the remaining19 frames. I want to remove about 4 frames of brood, 1 capped plus 3 with open (eggs & larvae) brood, plus 2 frames of honey and put these 6 frames in the new split with 4 frames of drawn comb on the outsides of the new 6. All of these frames hopefully were moved with the clinging bees attached; but just to make sure, take another pair of frames and shakes the bees off of them into the new split hive. On the first flight out of the split, the foraging age bees will return to the parent colony while the bees less than 19 days old are nurse bees and they will stay with the split. Your old parent colony now is short 6 frames plus the one the old queen is on. In the bottom box, put the frame with the queen surrounded by 3 frames with some brood plus 6 frames of drawn comb for her to lay, and put the other brood body of ten frames on top and close up. Go to the house and get your new queen, remove the cork from the candy end and place that introduction box no-cork end up near the rear of the hive between frames 5 & 6 (the #10 frame has to be left out for several days until the queen introduction box is removed), have the entrance reducer in place, put on your inner cover with the gallon of syrup over the inner cover hole (make sure the queen cage is not right there), and close up. Wait 5 days, and at noon to 2 PM using NO smoke, ever so carefully inspect to see if the queen is released. She should be, so carefully remove the queen cage and replace the #10 frame. Wait for 4-6 days before you inspect to see if the queen is laying and do it at noon to 3 PM without smoke if you can.
After about a week from making the split, add your honey supers to the old colony so they have plenty of nectar storage space.

After you have harvested your honey from the parent colony which should be done before July 4th in central Maryland, you can REQUEEN this parent colony and combine the two colonies into one strong colony to get through the coming winter. Go through the old parent colony, find the queen and "get rid of her" (kill, give away, put in an observation hive, etc.), and wait until the next day so all her bees know she is gone. Place a single sheet of newspaper on top of the open top hive body, poke 1-2 nail holes through the paper, remove the bottom board from the split and transfer the two split hive bodies right on top of the newspaper, and close up. Inspect for the queen in a week or 10 days

by just looking for eggs or young larva. You don't have to see the queen, and with these two strong colonies put together, she might be hard to find anyhow. If you find any supersedure cells, call me for advice. Use good inspection technique of midday, from about 11:00 AM to 3:00 PM (when foraging bees are away), minimal smoke (don't distress the bees), and do everything quite carefully and slowly so as not to disturb the bees and make them ball (kill) the queen. I have been doing this for many years with many colonies and rarely have any trouble. I try to do it shortly after I have finished harvesting which is almost always by July 4th.

Closing Short Surprising Notes

It seems like everybody thinks that HONEY is a bee's favorite food, and they are totally WRONG. Honey is a winter storage item, just like hardtack is for a sailor or a K-Ration for a soldier. The favorite food of the honey bee is NECTAR, which is a watery solution of SUCROSE (table sugar) plus a few odorous chemical compounds that provide the odor to attract the bee to the flower. The next favorite food of the honey bee is 1:1 sugar syrup (SURPRISE), and honey is the third place choice. If you want to prove it, put a teaspoon of each on a saucer and place the three saucers on a table about 100 yards away from your colony and watch which item disappears the fastest or has the most bees trying to eat it.

Next month, we will talk a good bit about swarms, but let me tease your thinking. Many people try to attract a swarm of bees to a frame of honey. What a joke that is! Swarm bees are flying to a new home but don't have any lunch boxes to carry food along on their trip, so they have STUFFED their honey stomachs with honey before they left their old home, and are gorged. Further, why use any smoke on swarm bees? Smoke just makes them take flight into the air, and they are so gorged with honey, they would much prefer to quietly sit until the scout bees checked in and reported the location of the new home for them to fly to. Gorged bees are quiet bees, who have no good reason to sting anyone unless somebody is disturbing them. So you really don't need a frame of honey, a smoker, or even a veil to house a swarm in a box.

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Don't hesitate to write to me if I can help you, but I might be blunt to make YOU think.

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